Conservation Development

Conservation Design Scorecard

A Resilient Communities Project–GreenStep Cities Guide

Resilient Communities Project
University of Minnesota
Building community-university partnerships for sustainability

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Resilient Communities Project
University of Minnesota
330 HHHSPA
301—19th Avenue South
Minneapolis, Minnesota 55455
Phone: (612) 625-7501
E-mail: rcp@umn.edu
Website: http://rcp.umn.edu
@RCPumn
RCPumn
Resilient Communities

Minnesota GreenStep Cities
Minnesota Pollution Control Agency—Assistance Division
520 Lafayette Rd. N
St. Paul, MN 55155
Phone: (651) 757-2594
Website: http://www.MnGreenStep.org
@GreenStepCities
@mngreenstep

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The Distinguished Developments Scoring Sheet for Conservation Design

UMN Course: ESPM 5242: Methods for Natural Resource and Environmental Policy
UMN Student Author: Michelle Wood-Kustanowitz
City Project Leads: Susan Thomas, Principal Planner, City of Minnetonka; and Jo Colleran, Natural Resources Manager, City of Minnetonka
UMN Course Instructors: Dennis Becker and Michael Kilgore, Department of Forest Resources, College of Food, Agricultural, and Natural Resource Sciences
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INTRODUCTION

Conservation design is an innovative approach to development that enables communities to balance development objectives with conservation goals, typically through a combination of more dense development and preservation of large, contiguous areas of open space.

In 2009, Envision Minnesota created a Conservation Design Scorecard that planners, planning commissions, local officials, developers, conservation professionals, and residents can use to ensure conservation design developments meet their objectives of preserving the environmental integrity of the development site, creating a unique sense of place, and fostering a more open development process that engages neighbors and community members. Developments are rated on 10 basic characteristics using measureable criteria: amount of open space, value of open space, connectivity of open space, legal protection of open space, minimal environmental and viewshed impacts, minimal impacts from roads, storm water managed onsite, wastewater appropriately managed, transparent and open application process, and community sense of place.

This resource presents a slightly adapted version of the scorecard more appropriate for suburban contexts.

Overall Implementation and Use Recommendations

- **Define as many items as possible** in the scorecard through reference to local ordinances or policies. Subjective interpretation will become frustrating for both city staff and developers. The less confusion and frustration involved in the process, the more likely both parties will want to participate.

- **Bolster design specifications through policy.** While this helps define ambiguities, it also shows the municipality is serious about conservation development and provides some weight and support for the scorecard.

- **Gradual adoption** will help both staff and developers become comfortable with the recommendations and review process. Starting with target lots or parcels, focusing on certain aspects of the scorecard, or making participation voluntary for the first few years of implementation are good ways to troubleshoot issues and develop common understandings among staff and developers.

- **"Grandfathering" program** can incorporate conservation design elements into currently developed lots as they are sold and modified.

- **80%** minimum score recommendation for initial development plans. This can be specified in an ordinance.

- **Educate** both the public and developers on conservation development principles to garner support.

- **Incentives** can persuade developers to adopt conservation design principles into their plans. These could be density bonuses, tax breaks or faster approval processes.

- **Fit Your Community.** This scorecard was designed to encourage efficient and effective development benefitting communities ecologically, socially, and economically. Not all elements on this scorecard may fit with your community needs. Focus on aspects that are important to your community and community goals advises Levi Brown, Environmental Land Director with the Leech Lake Band of Ojibwe, a Star GreenStep City in Conservation Development. Shifting the weight placed on certain elements or removing those not applicable to your community helps make the scorecard your own. Another way to do this is to not tally points - while we want high scoring developments, points are a somewhat arbitrary way to determine appropriate development. The main goal is to continually improve the ecological and social quality of developments, preserve community resources for future generations, and have conversations with community members about how the community should function for all residents.

- **Offer examples** of preferred designs. This can help ensure all involved parties and departments are on the same page throughout all phases of development.

Advice from Minnetonka Staff

(participated in RCP program and uses scorecard)

- They do not physically make checks in the boxes as they go down the scorecard. Instead, they look at designs that focus on high quality habitat. Developers provide site inventories and resource quality as part of the application process, which are then ranked and guide development decisions (ex. cut down buckthorn degraded forest but save cluster of healthy old oak).

- Since Minnetonka is nearly fully developed, planners and developers use the scorecard to augment natural features on urban lots instead of creating completely new developments. To do this, planners place more emphasis on restoration instead of preservation. They also weight elements of the scorecard differently to better fit their goals and values.

- Not everything in the scorecard is applicable to small scale or parcel development. Focus on what is applicable to the city and the site, and make sure those aspects are done well.

- Many scorecard elements are already in city ordinances and policies so planners do not need to go through all aspects of the scorecard.

- Planners and developers review the full site, in depth as part of predevelopment. They also consider off site aspects like habitat connectivity, some of which are included on the scorecard.

- Have upfront conversation with developers about good design to ensure smooth process and project success.

- Scorecard sets expectations for all parties involved, including policy and city council. The scorecard helps communicate goals to everyone and offer some educational value. Conservation development requires a balance between departments and good internal communication to ensure there are no conflicting standards or requirements.

- Education needs to extend beyond developers to community leaders, elected officials, and the public. Community support is critical for successful policy implementation and change. The public needs to value nature, conservation, and understand the intents behind conservation design before communities can begin meaningful conversations with developers and create policies.

- The scorecard is on the website for developers and the public to help establish expectations and provide some transparency to the planning process.

Scorecard Directions

1 Review Scorecard.

2 Delete and/or add components specific to your community. Not all points may apply to your community and the projects you score. Each community should tailor the scorecard to be relevant to their specific purpose(s) and area.

3 Add up what would be the total highest possible score for your tailored scorecard.

4 Decide your acceptable range for high, medium, and low overall score.

5 Enter into dialogue and negotiations with your city and developers.

Conservation Design Scorecard

1. ECOLOGICAL INTEGRITY OF OPEN SPACE

A significant amount of open space is permanently protected to preserve the site's ecological integrity and function.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Project permanently protects a large percentage of parcel land or meets a minimum area requirement dependent on parcel type/size	> 70%	10	(x5)	
	60–69%	9		
	50–59%	8		
	40–49%	3		
	30–39%	2		
	20–29%	1		
	Less than 20%	0		
B. Less than 25% of protected property is made up of wetland, floodplain, steep slope, bluffs, and other "non-buildable areas"	Yes	2	(x2)	
	The parcel type/size and planned development does not accommodate smaller percent	1		
	No, and parcel/development accommodates other lands being protected	0		
C. Unique features of the property are permanently protected, such as: remnant ecosystems, woodland preservation areas, wetlands, significant topography, historical or culturally valuable lands	Yes	2	(x2)	
	No	0		

SUBTOTAL _____

2. NATURAL VALUE OF OPEN SPACE

Permanently protected open space is selected based upon high natural resource values.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Primary and secondary conservation areas are defined in tandem with developable lands	Yes	2	(x2)	
	No	0		
B. Primary and Secondary conservation areas were defined after consultation with abutting property owners	Yes	2	(x2)	
	No	0		
C. Primary and Secondary conservation areas selected based on the following: ❑ Consultation with city staff ❑ Consultation with local conservation experts or existing scientific studies (County Biological Surveys, regional parks and trails master plans, DNR, soil & water conservation, or other conservation organization) ❑ Developer's design team includes conservation expertise	Yes to all 3	6	(x2)	
	Yes to 2 of 3	4		
	Yes to 1 of 3	2		
	No to all 3	0		
D. No wetlands or floodplains will be altered to facilitate development (If there are no wetlands or floodplains on the development parcel, you may circle "yes")	Yes	2	(x4)	
	All disturbed areas will be mitigated or relocated according to the strictest government levels	1		
	No, and disturbed areas are not planned to be mitigated	0		
E. Natural area plan includes plant restoration appropriate for site and ecological region *or* natural area/habitat creation in addition to existing site habitat	Yes	3	(x2)	
	No	0		
F. Open space has high habitat and ecological values (If site has multiple open spaces, select the largest open space)	Undisturbed, high-quality habitat	6	(x2)	
	Restored habitat	4		
	Maintained turf and gardens/ low-quality habitat	2		

SUBTOTAL _____

3. LEGAL PROTECTION OF OPEN SPACE

Open space is permanently protected through legal measures.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. A conservation easement is used to protect open space	Yes	4	(x6)	
	No	0		
B. A stewardship plan and funding mechanism have been adopted	Yes	4	(x2)	
	No	0		
C. Boundaries of open space are well-defined through the use of survey markers or signs *and* can be readily identified in the field and effectively defended from encroachment	Yes	3	(x3)	
	No	0		

SUBTOTAL _____

4. CONNECTIVITY OF OPEN SPACE AND NATURAL AREAS

Permanently protected open space has connectivity within the development and with natural areas or neighboring properties.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Open and natural space is integrated throughout the development	Yes	3	(x2)	
	No	0		
B. If open space is integrated, percent of open space physically connected to other public open space within development, rather than separated as isolated pockets of open space (If open space is not integrated due to a large parcel of quality habitat or other ecological reasons, claim 4 points) (If open space is not integrated for other habitat/ecological service reasons, claim 0 points)	100%	6	(x2)	
	99–80%	6		
	50–79%	4		
	30–49%	2		
	29% and less	0		
C. The project connects its open space with natural areas identified on neighboring properties (If neighboring properties do not have natural areas (ie. fully developed), you may circle "yes")	Yes	4	(x4)	
	No	0		

SUBTOTAL _____

5. BUILT STRUCTURES

Built structures are sited where there will be minimal adverse environmental impacts.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Development is located on reclaimed land, greyfield or brownfield	Yes	4	(x2)	
	No	0		
B. Built structures are only sited in areas designated as "developable," which includes soil conditions appropriate for Subsurface Sewage Treatment Systems (SSTSs), if applicable	Yes	2	(x2)	
	No	0		
C. Grading is limited to no more than 30 feet from structures to reduce impact to natural features including lakes, creeks, wetlands, and floodplain	Yes	2	(x2)	
	No	0		
D. Development occurs within a municipality's designated growth area where infrastructure already exists or where infrastructure will extend in the near future based on planned growth of the municipality	Yes	3	(x5)	
	No	0		
E. Built structures achieve a minimal level of green building performance as certified or measured using a local, statewide or national system such as MN GreenStar or LEED (Leadership in Energy and Environmental Design)	Yes	2	(x3)	
	No	0		
F. Project offers a percentage of "affordable" housing options for those earning less than 80% of the Area Median Income (AMI)	15% or greater is "affordable"	2	(x2)	
	5%–14%	1		
	Less than 5%	0		
G. Project: 1) screens development internally through the use of vegetation, topography, and use of natural elements in structures *and* 2) screens the development externally as viewed from nearby arterial roads or developments	Yes to Both	2	(x3)	
	Yes to 1 option	1		
	No to Both	0		
H. There is a mixed-use component to the development such as clustering of built structures, multiple uses on site, multimodal accessibility, or flexible zoning	Yes	2	(x3)	
	No	0		

SUBTOTAL _____

6. ROADS

Roads servicing the development promote safety and minimize impervious surfaces.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Roads within the development are narrower than traditional standards	Road widths Less than 20'	5	(x3)	
	21'–24'	3		
	25'–30'	2		
	Greater than 30'	0		
B. Roads use alternatives to traditional curb and gutter design to better manage stormwater runoff	Yes	5	(x2)	
	No	0		
C. Road geometry is appropriate within the development, ie. meandering with lower traffic speeds to fit the site or connectivity to a larger grid system	Appropriate	3	(x2)	
	Not appropriate	0		
D. Paved driveways are designed to limit both width and length	Yes	2	(x2)	
	No	0		

SUBTOTAL _____

7. STORMWATER

Stormwater is managed on-site such that pre-development runoff and post-development runoff are the same in both volume and patterns.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Project promotes Low Impact Development principles including: 1) taking advantage of the open space's natural landscape of hills, valleys, swales and channels to effectively hold stormwater on-site; 2) the use of pervious pavement; 3) inclusion of green roof designs; 4) the use of rain gardens, rain barrels or cisterns to collect and hold stormwater	LID qualities: 3 or more	3	(x3)	
	2	2		
	1	1		
	0	0		
B. If project uses traditional stormwater retention ponds, they are well designed as determined by the local Soil and Water Conservation District. Good design includes cleanout forebays and vegetated shelves, and they do not "short circuit" (If the project does not use traditional stormwater ponds, you may circle "yes")	Yes	2	(x2)	
	No	0		

C. Project limits the percentage of impervious surface from hardscapes such as roofs, roads and driveways (This could be for individual lots or for the entire development depending on existing stormwater ordinances and policies)	10% or less Impervious	4	(x3)	
	11%–12%	3		
	13%–15%	2		
	16%–20%	1		
	21%–25%	0		
	Greater than 25% Impervious	-4		
D. Buffers of native vegetation are established and maintained along wetlands and shorelines on the parcel (If there are no wetlands or shorelands on the development parcel, you may claim the maximum number of points)	Average buffer depth: 50 feet or greater	4	(x4)	
	40–49 feet	3		
	30–39 feet	2		
	20–29 feet	1		
	Less than 20 feet	0		

SUBTOTAL _____

8. WASTEWATER

Wastewater is appropriately treated and managed so as to minimally impact the environment.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Development site uses an approved method of wastewater treatment such as a sewer pipe to a treatment facility, SSTSs, constructed wetlands, or other environmentally friendly innovation	Yes	5	(x3)	
	No	0		
B. If Subsurface Sewage Treatment Systems are used (including constructed wetland systems), they are shared/clustered rather than individual systems (If the development is hooked up to a sewer pipe system that leads to a communal treatment facility, you may circle "yes")	Yes	3	(x3)	
	No	0		
C. Wastewater treatment is managed by a certified third party (A community sewer system that leads to a treatment facility before discharge would also be able to circle "yes")	Yes	3	(x3)	
	No	0		

SUBTOTAL _____

9. APPLICATION

The application process is transparent and includes guidance by planning staff, conservation experts, and community input/neighbor feedback.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. Prior to submitting an official application, the developer meets with planning staff to review a concept plan including general parcel features and surrounding area, proposed streets, location of wetlands, topography, soils, proposed location of buildings, developable lands, open space, description of water supply, sewage disposal, and stormwater management, etc.	Yes	3	(x3)	
	No	0		
B. Developer or city solicit concept plan reviews by a Technical Evaluation Panel (TEP), a Design Review Team (DRT) or by local conservation experts (DNR, MPCA, SWCD, or other)	Yes	2	(x3)	
	No	0		
C. Project includes site visits and open meetings with neighbors, planning staff, and other interested parties	Scheduled visits: 3 or more	3	(x2)	
	2	2		
	1	1		
	0	0		
D. Public education about conservation developments is provided alongside open houses and meetings, done independently by developer or in cooperation with appropriate city/ planning staff	Yes	2	(x2)	
	No	0		
E. Development fits with town, county, or regional comprehensive plan for future development, housing, and sustainability goals	Yes	3	(x2)	
	No	0		
F. Project has endorsements from the local neighborhood association, the nearby watershed association, COLA (Coalition of Lake Associations), abutting neighbors, or conservation experts	Endorsements: 3 or more	3	(x2)	
	2	2		
	1	1		
	0	0		

SUBTOTAL _____

10. COMMUNITY

A sense of community or sense of place is created through preserved cultural and historical features.

MEASUREMENT	ANSWER	POINTS	WEIGHT	SCORE
A. The project creates a Homeowner's Association (HOA) or a Community Association (CA) *and* membership is required for all property owners	Yes	2	(x3)	
	No	0		
B. The development creates informal gathering places for resident interaction such as structured (playgrounds) or unstructured play (nature-based play) areas, ball fields, centralized mailboxes, community gardens, community center, etc.	Yes, 3 or more	4	(x2)	
	Yes, 1 or 2	2		
	No	0		
C. Any historic or culturally significant features on the site are preserved (If there are no identifiable historic or culturally significant features on the site, you may circle "yes")	Yes	3	(x3)	
	No	0		
D. The project sets architectural design standards that contribute to creating a unique sense of place	Yes	2	(x2)	
	No	0		
E. Walking and/or biking trails are created to promote active living *and* are accessible to the public who doesn't live in the development	5 miles or more	6	(x2)	
	4–5	5		
	3–4	4		
	2–3	3		
	1–2	2		
	0–1	1		
	0	0		
F. Trails within development lead to connections with existing or proposed trails or public transportation outside of the development (If you have an internal trail system *and* there are no existing or proposed trails or public transportation outside of the development, you may circle "yes")	Yes	2	(x2)	
	No	0		
G. If development is on a lake, docks, boat launching ramps, and beach recreation areas are consolidated to minimize shoreland and in-lake impacts and promote neighborhood interaction (If the development is not on a lake, or no docks, ramps, or beach recreation areas are part of the development, you may circle "yes")	Yes	2	(x4)	
	No	0		

SUBTOTAL _____

FINAL CALCULATIONS

CONSERVATION DESIGN CRITERIA	TOTAL POSSIBLE		SECTION SCORES		CALCULATION		FINAL SCORE	GRADE (A - F)
1. Ecological Integrity of Open Space	58	÷		=		x100=		
2. Natural Value of Open Space	46	÷		=		x100=		
3. Legal Protection of Open Space	41	÷		=		x100=		
4. Connectivity of Open Space	34	÷		=		x100=		
5. Built Structures	45	÷		=		x100=		
6. Roads	35	÷		=		x100=		
7. Stormwater	41	÷		=		x100=		
8. Wastewater	33	÷		=		x100=		
9. Application	37	÷		=		x100=		
10. Community	59	÷		=		x100=		
Total Overall Criteria	**429**	÷		=		x100=		

FINAL SCORE	GRADE
90–100%	A
80–89%	B
70–79%	C
60–69%	D
< 60%	F

Sample Conservation Development Legal Language

Small Population Municipalities: Collegeville Township (3,300 people) Hanover (3,000 people) Marine on the St. Croix (700 People)	**Small Area Municipalities:** Hanover (5.6 mi^2) Marine of the St. Croix (4.2 mi^2) Victoria (9.8 mi^2)
Medium Population Municipalities: Inver Grove Heights (34,300 people) Victoria (8,000 people)	**Medium Area Municipalities:** Collegeville Township (35.1 mi^2) Inver Grove Heights (30.1 mi^2) Minnetonka (28.2 mi^2)
Large Population Municipalities: Minnetonka (51,400 people) Stearns County (152,100 people) Washington County (246,000 people)	**Large Area Municipalities:** Stearns County (1,390 mi^2) Washington County (423 mi^2)

OVERLAY DISTRICTS

- **Collegeville Township:** The Natural Resource Conservation Design Overlay District is "intended to protect areas of high value natural resources within Collegeville Township by allowing development flexibility not allowed under the base zoning districts. Lands within this District shall be subject to a primary zoning district and, if applicable, the Shoreland Overlay District and the Floodplain Overlay District."

- **Inver Grove Heights:** Northwest Area Overlay District was established to regulate "development consistent with the City's comprehensive plan while creating a cost-efficient storm sewer system."

- **Marine on the St. Croix:** The Lower St. Croix River Overlay District protects natural resources and natural scenic values, designates suitable land use districts, regulate lot sizes, setbacks of structures and sanitary waste treatment facilities, monitors natural vegetation and topography alterations, and preserves the historic character, values, and significance represented in Marine on the St. Croix.

- **Stearns County:** Agricultural and Natural Resource Conservation Overlays

PLANNED UNIT DEVELOPMENT (PUD) ORDINANCE

- **Marine on the St. Croix:** The PUD "encourages more creative and efficient development of land and improvements than is possible under the more restrictive application of zoning requirements while meeting the standards and purposes of the Comprehensive Plan and preserving the health, safety, and welfare of citizens." It also "ensures concentration of open space into more usable areas, and preserves natural resources of the site and facilitates the economical provision of streets and public utilities."

- **Minnetonka:** PUDs may be considered when they better-preserve existing natural resources, provide more affordable housing, promote a better mix of land uses, or produce greater energy conservation through building and site design than would traditional zoning regulations.

- **Victoria:** PUDs are permissible in all districts where city sewer is available. Their use is to provide or encourage energy conservation, preserving desirable site characteristics, open space, and sensitive environmental features, and more efficient and effective land use and open space through mixed land uses.

- **Washington County's** Open Space Development ordinance is designed to provide efficient land use while maintaining contiguous blocks of economically and ecologically valuable lands, create neighborhoods with access to commonly-owned open space, provide a diversity of lot sizes, housing choices, and building densities while preserving scenic views and the county's rural character. It requires a conditional use permit, and inventories are required as part of the application process. Their definition is accompanied by drawings, comparing it to traditional development.

SUBDIVISION REGULATION

- **Hanover:** The intention of conservation subdivision design is to integrate development with the natural features of the site to preserve natural habitat areas and land forms unique to Hanover, create open spaces for passive and active recreational uses, create well designed residential neighborhoods that feature common open space, establish a unified landscape amenity for the enjoyment of residents, and to implement greenway corridor objectives of the Comprehensive Plan.

- **Stearns County** "The purpose of Cluster Development Standards is to concentrate residential lots in rural development and allow an equivalent land area to remain in agricultural production or open space and shall be required in select primary zoning districts."

Agricultural Focus
Stearns County
Marine on the St. Croix
Minnetonka
Stearns County

Natural Resource Focus
Collegeville Township

HOW DID THEY HANDLE...

DENSITY BONUSES?

Marine on the St. Croix permits one additional unit for each eight units within a PUD area. This exception is not applicable to density transfers.

Stearns County (and Collegeville Township) permit a 50% increase in residential density for eligible properties in R-10 or R-5 zoning districts. They do permit density transfers.

In Agricultural and Natural Resource overlays, in A-40 primary zoning districts, the number of permitted residential dwelling sites may be increased by 100 percent. To achieve a 100 percent increase in residential density, multiply the eligible residential dwelling sites, as determined in each primary zoning district including the fraction, by two, rounding up or down as needed. Up to two additional dwelling units per forty acres may be transferred into a proposed subdivision site if the dwelling unit rights are acquired via the County Agricultural Transfer of Development Rights program and meet all the approvals and standards for such transfers. Transfers cannot exceed the 100% density increase.

Victoria allows density transfers if the subdivision preserves at least 50% of land, dedicates more than 11% of land for usable public space (including parks) or public schools, or dedicates to the city or public trust. These areas cannot include wetlands. Density bonuses up to 25% may be approved to support conservation design plans exceeding minimum requirements.

Washington County will increase density 5% for each standard achieved for a maximum density bonus of 20%.

- Creating an endowment where the principal would generate sufficient annual interest to cover the conservation easement holder's yearly costs (taxes, insurance, maintenance, enforcement, etc.).
- Providing for access by the general public to trails, parks, or other recreational facilities, excluding golf courses.
- Providing affordable housing, to include a minimum of 25 percent of all units that would be affordable to moderate-income households as defined by HUD.

- Reusing historical buildings and structures, including those sites inventoried by the Washington County History Network and the State Historic Preservation Office.

DESIGN?

Hanover classifies open space into three categories: natural habitat, neighborhood recreation, and trail corridors. Each type of open space has minimum design standards.

Inver Grove Heights has density and bulk standards for various residential and commercial purposes to provide both flexibility and encourage mixed use development.

Marine on the St. Croix provides example sketches of encouraged and discouraged development plans (Section 504).

Stearns County has siting standards emphasizing contiguous development and avoiding fragmentation. They outline the design process to ensure developers and staff are on the same page.

Victoria: Each PUD must be a minimum of 5 acres excluding wetland and shorelands rights-of-ways, some exceptions will be considered.

Washington County has a minimum open space required based on primary zoning designations, ranging from 30% to 75% with the majority of areas requiring at least 60% of land be preserved as open space. There are drawings of examples throughout the Development Code Chapter 2, Section 4.

DRIVEWAYS?

Hanover encourages shared driveways and one driveway accesses no closer than 200 feet from other one driveway accesses. They also have grading and slope specifications.

Inver Grove Heights has a maximum length of 20 feet and curb opening maximum of 22 feet for single family, two family, and twin homes. All other driveways can be up to 35 feet long and 40 feet wide. Additional parking, guest parking, turn-arounds, non-residential medians, and boulevards beyond the maximum length or width must be a permanent pervious surface.

Victoria specifies driveways for townhomes in PUDs "shall not exceed 24 feet (in width) at the curbline or edge of the road, nor shall two driveways be combined creating a width of more than 24 feet at the curbline. Adjacent driveways shall be separated by a landscape area at least ten feet wide. No more than 50 feet of every 100 feet of public or private street serving the townhouses shall be used as access to townhouse driveways, except at public or private cul-de-sacs, where some adjustments may be allowed. Driveway grades shall accommodate use by people and vehicles during all seasons. In general, grades shall not exceed seven percent. All driveways must be bituminous, brick, concrete or concrete pavers."

OPEN SPACE OWNERSHIP AND MANAGEMENT?

Hanover outlines that open space may be owned in common by property owners and should be managed through the subdivision's homeowner's association. Recreational open space and trail intended as public parks will be dedicated to the city, who will then be responsible for management and maintenance.

Inver Grove Heights allows property owners, homeowner associations and/or non-profit organizations to own and manage natural and open space. Space can be dedicated to the city "if the City Council determines there is a demonstrated public need."

Marine on the St. Croix allows public open space to be owned and managed by established land trusts, property owners and the owner association, dedication to the City, or protected in a conservation restriction.

Minnetonka: A homeowner's association must be established to maintain public spaces and restore/manage natural areas in the PUD area.

Stearns County allows homeowner's associations and third parties to own and manage both agricultural and natural resource open/protected spaces. Third parties must prove they have the resources to maintain the land in its intended purpose and agree to keep the land as such. The County Board must approve any maintenance plans.

Washington County protected open space can be owned and operated by any combination of homeowner's associations, non-profit organizations, a governmental body empowered to hold interest in real property or an individual who will use the land for the intended open space purposes and provide protection through permanent conservation restrictions.

RURAL CHARACTER?

Collegeville Township recommends protecting rural character by avoiding development that directly fronts onto existing public roads and by developing scenic corridors along roadways.

Stearns County's agricultural overlay protects high-quality farmland and keeps it in production. These protections must be permanent. "Designs shall protect rural roadside character through retaining existing trees or native vegetation between housing and roads, setting back development from roads or designating new landscaping as a buffer."

STORMWATER?

Hanover "Flood protection shall be provided for one hundred (100) year-ten (10)-day and one hundred (100) year-twenty four (24) hour design return frequency. All ponding, detention or retention shall be designed for 100-year frequency storm condition with a positive outlet."

Inver Grove Heights "All development in the Northwest Area Overlay District shall be designed such that stormwater runoff is managed on-site within the planned unit development to match pre-development runoff, as demonstrated by matching pre and post development runoff volume for the 5-year, 24-hour event. The stormwater system shall also have managed overflows to the regional system of natural depressions such that the stormwater rainfall/runoff for a 100 year event is safely transported. Contingencies for emergency overflows at least one foot below the lowest structure shall be provided"

Marine on the St. Croix allows water to "be discharged into marshlands, swamps, and retention basins after passing through appropriate water quality treatment facilities. Diversion of stormwater to marshlands or swamps may be considered for existing or planned surface drainage. Marshlands and swamps used for stormwater storage shall provide for natural or artificial water level control. Retention and water quality treatment basins scattered throughout developed areas shall be encouraged to improve stormwater quality, reduce peak flow, erosion damage, and construction cost." Stormwater management must manage water flows at pre-development volumes and rates both during and after construction. There is also a separate section specifically about preserving natural drainageways.

TREES?

Hanover requires developers to include a tree preservation plan as part of their application, protecting valuable trees on site during and post construction. The preservation plan must include a tree inventory, mass graded areas and proposed grades, all trees proposed to be saved, zones of no soil disturbance and significant tree protection, and proposed measures to protect trees. Proposed protection measures require city approval before development can begin. They also have tree replacement protocol and a list of unacceptable species.

Collegeville Township has a standard that deciduous trees are planted at 40 foot intervals on both sides of the street, located between the sidewalk and the edge of the street to create a buffer. This buffer/planting zone is to be at least 5 feet wide.

Marine on the St. Croix requires a tree preservation plan for single-family home subdivisions, business, and industrial developments. It must include significant tree identification, proposed preservation measures during construction, and grading. Trees removed during construction shall be replaced with indigenous, hardy trees to a pre-development density "but in no case shall the developer/applicant be compelled to raise the density above 10 trees per acre."

OTHER CONSIDERATIONS

Erosion and Sediment Control: Hanover, Marine on the St. Croix

Mixed Use and Parking Provisions: Inver Grove Heights, Minnetonka, Victoria

Properties without Municipal Sewer and Water: Inver Grove Heights, Stearns County, Victoria

Shorelands: Victoria

Street Standards: Washington County

Wetlands: Marine on the St. Croix, Minnetonka

Links to Full Codes and Ordinances

Collegeville Township: Land Use and Zoning Ordinance 4

http://www.collegevilletownship.com/vertical/sites/%7B8E15CC9D-8114-4E53-A84D-F6239D2C1BB6%7D/uploads/Land_Use_and_Zoning_Ordinance_4_-_pages_1_to_29.pdf

http://www.collegevilletownship.com/vertical/sites/%7B8E15CC9D-8114-4E53-A84D-F6239D2C1BB6%7D/uploads/Land_Use_and_Zoning_Ordinance_4_-_pages_30_to_37.pdf

Hanover: Article 8 Design Standards

http://www.hanovermn.org/vertical/sites/%7B16C6D2AE-89FC-4A97-9E92-3449C8A9165C%7D/uploads/%7B45E48624-E784-44D1-9A73-6849136B808B%7D.PDF

Inver Grove Heights: Ordinance 1148, regarding the Northwest Area Overlay District

http://www.ci.inver-grove-heights.mn.us/DocumentCenter/Home/View/281

Marine on the St. Croix: Zoning Ordinance and Subdivision Regulations

http://www.marineonstcroix.org/vertical/sites/%7BE6A156D5-6FCB-4DD8-BA60-2F231F862CF9%7D/uploads/%7B8FA85380-CE7E-4BB9-A7E8-42A5B8F41999%7D.PDF

Minnetonka: Zoning Ordinance Chapter 3 (Section 22 for PUD)

http://library.amlegal.com/nxt/gateway.dll/Minnesota/minneton/cityofminnetonkahomerulecharter?f=templates$fn=default.htm$3.0$vid=amlegal:minnetonka_mn

Stearns County: Ordinance 439

http://www.co.stearns.mn.us/Default.aspx?TabId=65&xsfid=1203

Victoria: Zoning and Land Use Regulations, Article XVII sections 109-566 and 109-569

https://www.municode.com/library/mn/victoria/codes/code_of_ordinances

Washington County: Zoning Regulations and Performance Standards (language starts on page 88)

https://www.co.washington.mn.us/DocumentCenter/View/25

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330 HHHSPA, 301 19th Avenue South, Minneapolis, MN 55455 | 612-625-1551